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10/755,717	01/12/2004	Karlo Popp	054821-0879	9773

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EXAMINER	
ONEILL, KARIE AMBER	

ART UNIT	PAPER NUMBER
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/755,717	POPP, KARLO	
	Examiner	Art Unit	
	Karie O'Neill	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 13-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 13-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 March 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Applicant's amendment filed on April 30, 2008, was received. Claim 1 has been amended. Claims 9-12 have been cancelled. Claims 13-16 have been added as new. Therefore, Claims 1-8 and 13-16 are pending in this office action.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on February 4, 2008.

Claim Rejections - 35 USC § 112

3. The rejection of Claim 1 under 35 U.S.C. 112, second paragraph, has been overcome because the claim has been amended.

4. Claims 1-8 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how there can be an intermediate space between the pole sleeve and the pole shank in Claim 1, when a subsequent and dependent Claim 15 recites filling in the intermediate space with solder material. The space is either an empty space, as indicated by Claim 1, or a filled in space, as indicated by Claim 15, in which case some type of sealing or filling material would be present.

Claim Rejections - 35 USC § 103

5. Claims 1-8 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quist (US 4,410,610) in view of Lund et al. (US 6,309,429 B1).

With regard to Claims 1, 14 and 15, Quist discloses in Figure 3, a rechargeable battery having a cover (5), the rechargeable battery comprising: at least one connecting pole comprising a pole shank, called a post (6), inserted into a pole sleeve, called a metal sleeve (1) having an inner surface (9), wherein the pole sleeve (1) is electrically conductively connected to the pole shank (6) and is held in a liquid-tight and gas-tight manner by the cover (5) (column 2 lines 17-22 and lines 34-36); wherein a first section of the pole shank (6) is electrically conductively connected in a gas-tight and liquid-tight manner to the inner surface of the pole sleeve (9) (column 2 lines 17-22 and lines 34-36); and further comprising a sliding element, called a sealing element (2), provided between a second section of the pole shank (6) and the inner surface of the pole sleeve (1) forming an inner surface (4) of the sealing element. Quist does not disclose wherein the connecting pole sealably mounted in the cover such that the rechargeable battery is liquid-tight and gas-tight; and wherein the diameter of the first section of the pole shank is smaller than the diameter of the second section of the pole shank to provide an intermediate space between the pole sleeve and the pole shank.

Lund et al. discloses in Figures 1 and 2, a lead acid storage battery (10) including a case (12) and cover (20) having terminal posts (22) extending upwardly through terminal bushings (21). The case (12) contains a plurality of battery cell elements that are electrically coupled to the terminals (11) on the top side thereof (column 3 lines 1-4).

In Figure 2, it can be seen that the rechargeable battery located in the lower portion of the housing is closed off from the terminal posts (22) and is only attached to the bottom portion of the terminal posts. This arrangement allows for the rechargeable battery to be liquid-tight and gas-tight. In another embodiment, Figure 6, Lund et al. discloses wherein the terminal post (22), or connecting pole, is closed off from the outside of the entire rechargeable battery by applying a final or outer cover (5). It is also noted that the terminal post (22) is integrally molded into the battery cover (20) through a dam (46) which controls melted material from the bushing (21) and for forming the battery terminal in finished shape (column 4 lines 45-50). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use an outer cover to seal the terminal posts from the outside of the battery of Quist, because Lund et al. teaches providing a hermetic seal about the formed terminal (column 6 lines 3-9). Lund et al. also discloses in Figure 3, wherein the terminal posts (22), or pole shank, are cylindrical and have a slight upward external taper (column 3 lines 9-12), resulting in the first section (the upper portion) of the pole shank having a smaller diameter than a second section (lower portion) of the pole shank and providing an intermediate space between the terminal post (22), or pole shank, and the pole sleeve, or terminal bushing (21), which can be seen in Figure 3. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a cylindrical terminal post having a first section with a diameter smaller than a second section as part of the rechargeable battery of Quist, because Lund et al. teaches that the tapered terminal post is easily positionable into respective tapered axial openings of the bushings, which

allow for proper seating of the terminal during assembly of the cover on to the battery case (for example, see column 3 lines 11-17).

With regard to Claim 2, Quist discloses wherein the first section of the pole shank is provided toward a free end of the pole shank, the first section being considered the uppermost section closest to the battery cover, and the sliding element, or sealing element (2) is surrounded at least in places by a section of the pole sleeve which is used to attach the pole sleeve to the cover. This attachment section is called a seat (10) and is a portion in which the sealing element is axially displaced while maintaining a good seal between the cover (5) and the sealing element (2).

With regard to Claim 3, Quist discloses wherein the sliding element, or sealing element (2), is provided in the form of an insert in the metal pole sleeve (1). The metal sleeve (1) is embedded with a sealing element (2) having external (3) and internal (4) surfaces for making contact with the battery cover (5) and post (6).

With regard to Claim 4, Quist discloses wherein the metal sleeve (1) is embedded with a sealing element (2) having external (3) and internal (4) surfaces for making contact with the battery cover (5). The term integral means, of, pertaining to, or belonging as a part of the whole; constituent or component. Because the sliding element, or sealing element (2), is resilient and provided with an external bearing surface (3) which is in sealing contact with the battery case (5) (column 2 lines 23-26), the sliding element, or sealing element (2), and the cover (5) become two parts making a whole.

With regard to Claims 5 and 6, Quist discloses wherein the metal sleeve (1) is embedded with a sealing element (2) having external (3) and internal (4) surfaces for making contact with the battery cover (5) and post (6). The definition of coating is: a layer of any substance spread over a surface. The definition of covering is: something laid over or wrapped around a thing. The sliding element (2) both covers and coats the pole shank (6) at the inner surface (4) of the sliding element, as taught in Figure 3.

With regard to Claim 7, Quist discloses in Figures 1 and 3, wherein the sliding element, or sealing element (2), is provided in the form a ring which is provided on the insertion opening in the pole sleeve, or metal sleeve (1), or the lowermost portion of the metal sleeve (1). Quist does not disclose wherein the pole sleeve comprises an insertion opening formed by a circumferential incline which enlarges the internal diameter of the pole sleeve.

Lund et al. discloses wherein the pole sleeve, or bushing (21) comprises an insertion opening (24) formed by a circumferential incline with an outwardly flared chamfer (25) which enlarges the inner diameter of the pole sleeve, or bushing (24). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to have an enlarged insertion opening of the pole sleeve of the rechargeable battery of Quist, because Lund et al. teaches the outwardly flared chamfer, or enlarged opening, guides respective terminal posts into proper seating relation to the bushing during assembly of the cover on to the case (column 3 lines 9-17).

With regard to Claims 8 and 13, Quist discloses wherein the sliding element, or sealing element (2), preferably consists of a vulcanized rubber, which is an un-

vulcanized thermoplastic material that is vulcanized by incorporating polypropylene. The purpose of the vulcanized rubber sealing element is to enhance the sealing properties and eliminate movement or sliding friction between the metal sleeve (1) and the post (6) (column 2 lines 28-65).

With regard to Claim 15, Lund et al. discloses terminal posts (22) and terminal bushings (21) that act as a sleeve for insertion of the terminal posts (22) into the battery cover (20). The battery cell terminal posts (22) are made of lead alloy material and the bushings (21) are made of solder alloy material having a significantly lower melting point than the terminal posts (22). The bushings are bonded to the terminal posts by heating the terminal posts (22) and bushings (21) to a temperature above the melting point of the material of the bushing, but below the melting point of the material of the post. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a soldering material in the intermediate space between the pole shank, or post (22), and sleeve, or bushing (21) or Quist, because Lund et al. teaches the solder material will create a secure and leak proof connection without melting of the terminal posts and with lesser chance for damage to the plastic cover (abstract).

Response to Arguments

6. Applicant's arguments filed April 30, 2008, have been fully considered but they are not persuasive.

Applicant's principal arguments are:

(a) Applicant asserts, the "rechargeable battery" recited in independent Claim 1 would not have been obvious in view of Quist, alone or in any proper combination with Lund, under 35 U.S.C. § 103(a). Quist, alone or in any proper combination with Lund, does not disclose, teach, or suggest a "rechargeable battery," comprising, in combination with other elements, a "sliding element" and a "pole shank" wherein the "diameter of the first section is smaller than the diameter of the second section to provide an intermediate space between the pole sleeve and the pole shank."

(b) The Applicant also notes that the "sealing material 2" of Quist is not the same as the "sliding element" (of Claim 1). Rather, the "sealing material 2" of Quist provides a seal between the "sleeve 1" and "post 6" (see Quist at col. 2, lines 14-17), as opposed to the "sliding element" (of Claim 1) that "makes it relatively simple to fit a pole sleeve to a pole shank" and "largely avoids damage to the pole shank and/or to the pole sleeve when the pole sleeve is pushed onto the pole shank" (see present disclosure at paragraphs [0015] and [0016]).

(c) Applicant asserts, "to transform the "pole bushing for batteries" of Quist and the "lead acid storage battery and method of bonding battery cell terminal posts and bushings" of Lund into a "rechargeable battery" (as recited in Claim 1) would require still further modification, and such modification is taught only by the Applicant's own disclosure. The suggestion to make the combination of Quist and Lund has been taken from the Applicant's own specification (using hindsight), which is improper".

In response to Applicant's arguments, please consider the following comments:

(a) Examiner points to the rejection in paragraph 5 above which discloses all of the above mentioned structural elements and a proper motivation to combine the Quist and Lund et al. references.

(b) The sealing element (2) of Quist provides a seal between the sleeve (1) and post (6) after the battery has begun to function and electrochemical expansion has occurred (column 2 lines 36-41). Before electrochemical expansion, the sealing element (2) also provides for the post (6) to fit into the sleeve (1). Although a description of the function of the "sealing element" is given in the disclosure of the instant application, the function of the structural elements is not given patentable weight. Claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. Also, limitations appearing in the specification but not recited in the claim are not read into the claim. See MPEP 2106.

(c) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571)272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
Art Unit 1795

KAO

/Mark Ruthkosky/
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